

This was in response to correspondence indicating that a dredging outfit, valued at \$1,000,000, wished to proceed on Lake Huron from Harbor Beach to Alpena, moving at the rate of 6 miles an hour. November 19 was the first day following the receipt of the request when weather conditions appeared to be propitious, and the advice was accordingly sent to Alpena.—*H. J. Cox.*

NEW ORLEANS FORECAST DISTRICT

Moderate weather conditions prevailed during the month. Warnings for freezing weather were issued for the northern portion of the district on the 5th, 8th, 15th, 19th, and 27th, and warnings for frost to the coast were issued on the 8th, 15th, 16th, and 20th; freezing and frosts occurred in the areas covered by these warnings.

Cold-wave warnings were issued on the morning of the 7th for Oklahoma and Arkansas and repeated in the evening for Arkansas; subsequent conditions justified the warnings.

Small craft warnings were displayed on parts of the Texas coast on the 5th, 14th, 19th, and 22d. No general storm occurred without warning. "Norther" warning was issued for Tampico, Mexico, on the 19th, and justified by subsequent conditions.—*I. M. Cline.*

DENVER FORECAST DISTRICT

Precipitation over considerable portions of the district attended disturbances which advanced eastward from California or the southern portion of the Rocky Mountain Plateau during the 1st-4th, 12th-13th and the 23d-24th. Heavy snow in southeastern and extreme eastern Colorado on the 6th and 7th resulted from a moderate low which was central over western New Mexico and eastern Arizona on the morning of the 6th but which increased rapidly in intensity during the day.

No general cold waves occurred and no warnings were issued. Falls in temperature sufficient to amount to local cold waves were noted at Flagstaff, Ariz., on the 8th and at Durango, Colo., on the morning of the 15th.

Frost warnings which were generally verified were issued as follows: For south-central Arizona, on the 5th and 16th; south-central and southeastern Arizona, on the 6th, 7th, 8th, 9th, 11th, 12th, 13th, and 14th; southern Arizona, on the 15th, 17th, and 18th.—*J. M. Sherier.*

SAN FRANCISCO FORECAST DISTRICT

The month opened with a disturbance in the process of formation over the plateau region, another already formed and moving eastward over British Columbia and an area of high barometric pressure of considerable magnitude over the Northeast Pacific Ocean. The plateau disturbance moved slowly eastward attended by scattered rains in this forecast district until the 4th, when it passed beyond the Rocky Mountains, and the pressure rose decidedly, the weather cleared and much lower temperatures overspread practically the entire forecast district, attended by frosts by the morning of the 8th as far south as the interior of southern California. Frosts were forecast from day to day in advance of their expected occurrence.

Following the 6th the barometer became quite low over the Gulf of Alaska and it remained so until the 18th, when the widespread disturbance in that region lost intensity and disappeared. In the meantime what seemed to be secondaries of this primary cyclone, moved onto the coast north of the mouth of the

Columbia River and in every instance these were attended by sharp falls in pressure, gales and rains on the north coast. These were covered by the forecasts and warnings issued from the district forecast center. These changes, however, did not extend south of the north portion of northern California, for in southern California the weather remained fair and cool with light, local frosts in the interior.

The highest wind that occurred in connection with the disturbances on the north coast was on the 15th, when a velocity of 92 miles an hour from the south was recorded at North Head, Washington.

After the 18th, the pressure again fell, over and south of the Aleutian Islands. This disturbance advanced eastward, attended by gales over the northern part of the ocean. In fact, from this time on, the weather was stormy generally over the northeast Pacific Ocean, but relatively quiet over this forecast district, the exception being a disturbance of minor intensity which formed off the southern coast on the 23d and during the following 36 hours caused heavy local rains in southern California. During the last decade of the month a disturbance which first appeared north of the Hawaiian Islands advanced slowly eastward and at the close of the month its center was still off the California coast. It was seven days in moving from west longitude 165° to a position off the California coast, the center at all times being south of latitude 40°. This disturbance gave general rains at the close of the month throughout practically the entire forecast district. Announcements telling of the presence of this disturbance off the coast and the likelihood of its causing rains were issued from the forecast center well in advance of the occurrence of the rain.

The month was one notable for the number of disturbances over the high latitudes of the Pacific Ocean. Nearly all of these gave pressures well below 29 inches, and two of them gave pressures below 28.50 inches. Unquestionably the month was marked by heavy and frequent gales on the trans-Pacific steamer routes. Advices concerning the pressure, weather and wind conditions over the ocean were disseminated twice each day through the Navy radio stations on the Pacific coast for the benefit of shipping.—*E. H. Bowie.*

RIVERS AND FLOODS

By H. C. FRANKENFIELD

As will be noted in the table following this report, widely scattered rises—of short duration for the most part—occurred in the Middle West and South during November. They were in the main well forecast and the losses resulting unavoidable. The following table, which is necessarily incomplete, gives for the more important cases the reported losses as well as the savings resulting from Weather Bureau flood warnings:

District	Losses (chiefly unhooused crops)	Savings by warnings
Houston, Tex.....	\$55,650	\$67,500
Terre Haute, Ind.....	13,000	25,000
Vicksburg, Miss.....	15,000	( <sup>1</sup> )
Mobile, Ala.....	( <sup>1</sup> )	1,500

<sup>1</sup> Not reported.

In the Houston, Tex., district the value of the flood forecasts was greatly increased by the use of radio as an additional method of dissemination. The official in

charge of the Weather Bureau office at that station reports that much favorable comment regarding this service was received.

In this connection it is well to add that the subject of radio dissemination of river forecasts and warnings is receiving increased attention, and daily reports are issued from Pittsburgh, Pa., Cincinnati, Ohio, and St. Louis, Mo. These daily reports include a bulletin giving the stages of the rivers at many points, the amount of precipitation, the daily river and weather forecasts, and a general summary of weather conditions. Flood warnings are of course broadcast from the above stations. From a few others also radio flood warnings are issued, a service which quite probably will be extended to other stations in the near future.

EFFECT OF WEATHER ON CROPS AND FARMING OPERATIONS, NOVEMBER, 1925

By J. B. KINGER

*General summary.*—From the Mississippi Valley eastward November was moderately cool and generally wet, except that less than the normal amount of rainfall occurred in some Atlantic coast districts. The temperature over this area averaged slightly below normal, the deficiencies in nearly all cases being 1° or 2°. The rainfall was heavy in much of the area, particularly in parts of the Southeast where, locally, more than six times the normal precipitation was received. Generally from the lower Mississippi Valley northeastward precipitation ranged from 110 to 170 per cent of the monthly normal.

In the area between the Mississippi Valley and Rocky Mountains the month was somewhat warmer than normal in most sections, the mean temperature of the northern Great Plains being from 3° to 5° above the seasonal average. In most of the southern half of this area there was an excess in precipitation, but in the northern half it was mostly deficient, some stations reporting only 14 to 20 per cent of the seasonal average. In the central Rocky Mountains normal warmth prevailed with heavy precipitation, while to the westward the temperature averaged near normal, and precipitation was mostly light. The month was especially dry in the Southwest and in most Pacific districts, with some stations reporting an inappreciable amount of rainfall.

Snowfall was unusually heavy for so early in the season in the central Rocky Mountain area and in the western Lake region, the totals being as much as a foot or more in some sections. In the interior of the Northeastern States some stations reported from 6 to 9 inches of snow, while a trace occurred as far south as central Tennessee. In the trans-Mississippi States, the extreme northern portions of Arkansas and Oklahoma represent the southern limit of snowfall. Because of the continued rainy or snowy weather, the month was generally unfavorable for seasonal farm operations in most sections from the Mississippi Valley eastward. It was especially unfavorable for the seeding of fall grains, but in the South the last half of the month was more favorable for picking and ginning cotton.

*Small grains.*—Early sown wheat made good progress all the month in all sections, and at the end was furnishing some pasturage in Oklahoma and Kansas, though less than usual. Later sowings germinated slowly, but generally came up to a good stand. Because of wet weather, considerable acreage was abandoned in many sections of the Ohio and Mississippi Valleys. In the upper Lake region wheat was well protected by snow at the end of the month, but in portions of the west coast region was needing rain. Buckwheat threshing was delayed by rain, but was practically finished by the end of the month. Harvesting and threshing rice was also delayed considerably by wet weather, but on the whole made fair progress.

*Corn.*—Because of previous wet weather, conditions were unfavorable for gathering corn during the early part of the month, the fields being muddy and the grain having too large a moisture content. There was considerable complaint of corn molding in the shock and heating in the crib. Conditions gradually improved, and during the latter part of the month, husking and cribbing made good progress, except that they again became unfavorable in Iowa at the very last.

*Cotton.*—The first two weeks were unfavorable for gathering cotton. There was considerable lowering of

River	Station	Flood stage	Above flood stages—dates		Crest	
			From	To	Stage	Date
<b>ATLANTIC DRAINAGE</b>						
Saluda.....	Pelzer, S. C.....	Feet 7	14	14	Feet 7.4	14
<b>EAST GULF DRAINAGE</b>						
Tombigbee.....	Lock No. 4, Demopolis, Ala.....	39	13	19	43.3	17
<b>MISSISSIPPI DRAINAGE</b>						
Tuscarawas.....	Gnadenhutten, Ohio.....	9	14	14	9.0	14
Wabash.....	Mount Carmel, Ill.....	16	19	14	16.6	21
Tippecanoe.....	Norway, Ind.....	6	15	22	6.2	15
White.....	Decker, Ind.....	18	19	23	18.6	22-23
White, West Fork.....	Anderson, Ind.....	12	14	14	12.2	14
	Elliston, Ind.....	19	15	20	21.4	18
	Edwardsport, Ind.....	15	10	21	18.2	19-20
Meramec.....	Pacific, Mo.....	11	8	11	14.8	10
	Valley Park, Mo.....	14	9	11	17.5	10
Bourbeuse.....	Union, Mo.....	10	9	10	13.2	10
Neosho.....	Oswego, Kans.....	17	9	9	17.2	9
Black.....	Williamsville, Mo.....	11	9	9	11.2	9
	Poplar Bluff, Mo.....	14	9	10	15.4	10
	Corning, Ark.....	11	(1)	2	13.2	Oct. 20
			8	(2)	13.1	Nov. 15
	Black Rock, Ark.....	14	8	16	17.5	!
Cache.....	Patterson, Ark.....	9	(1)	6	10.5	Oct. 22
			12	20	19.6	Nov. 15
Tallahatchie.....	Swan Lake, Miss.....	25	12	29	26.4	20-21
<b>WEST GULF DRAINAGE</b>						
Sabine.....	Logansport, La.....	25	11	13	26.0	12
	Bon Weir, Tex.....	20	8	9	20.3	9
Trinity.....	Liberty, Tex.....	25	7	18	27.3	12-14
Little.....	Little River, Tex.....	30	7	7	42.0	7

<sup>1</sup> Continued from last month.  
<sup>2</sup> Continued at end of month.

MEAN LAKE LEVELS DURING NOVEMBER, 1925

By UNITED STATES LAKE SURVEY

[Detroit, Mich., Dec. 5, 1925]

The following data are reported in the Notice to Mariners of the above date:

Data	Lakes <sup>1</sup>			
	Superior	Michigan and Huron	Erie	Ontario
Mean level during November, 1925:				
Above mean sea level at New York.....	Feet 601.11	Feet 577.68	Feet 570.45	Feet 244.31
Above or below—				
Mean stage of October, 1925.....	-0.27	-0.21	-0.08	-0.01
Mean stage of November, 1924.....	-0.60	-1.09	-0.61	-0.64
Average stage for November last 10 years.....	-1.30	-2.33	-1.31	-1.08
Highest recorded November stage.....	-2.40	-5.24	-3.22	-3.51
Lowest recorded November stage.....	-0.39	-1.09	-0.25	+0.90
Average departure (since 1860) of November level from October level.....	-0.17	-0.27	-0.25	-0.25

<sup>1</sup> Lake St. Clair's level: In November, 1925, 573.06 feet.